

FOURTH ANNUAL REPORT

OF

THE TRUSTEES

OF THE

MASSACHUSETTS

STATE SANATORIUM

AT RUTLAND.

SEPTEMBER 30, 1900.

BOSTON :

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OF THE
MASSACHUSETTS STATE SANATORIUM.

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Commonwealth of Massachusetts.

REPORT OF THE TRUSTEES.

To His Excellency the Governor of the Commonwealth and to the Honorable Council.

At the beginning of this the fourth annual report of the Massachusetts State Sanatorium we note with satisfaction the action of the Legislature (St. 1900, chapter 192), changing from the original name, the Massachusetts Hospital for Consumptives and Tubercular Patients, to Massachusetts State Sanatorium. The new name sanatorium is according to the best authorities now applied to all institutions devoted to the cure of consumptives.

During the past year the sanatorium has had its full quota of patients. The work of the year and the results are set forth in the report of the superintendent and treasurer and the reports of the medical staff, which are herewith submitted.

There are many matters of administration and of the general care and management of an institution of this kind which can be determined only from experience. The time during which the work has been carried on is quite brief. The first patient was received Oct. 3, 1898. Experience covering a longer period will be of continually increasing value. It is, however, safe to say that it is no longer an experiment. The hearty support given to the work by the medical profession, by the authorities of the State and by the general public is fully appreciated by the Board of Trustees.

The appropriation of \$18,000 made by the Legislature of 1900 for a new dining-room and recreation hall has not been used except a small amount incurred for architects' charges.

By the Resolves of 1900, chapter 98, the State Board of Charity was directed to consider and report upon the expediency of constructing and equipping a new building for the use of this sanatorium. As trustees of this institution, we gladly welcomed this inquiry. We have laid before that Board all facts within our experience and knowledge, and shall await with interest the aid which the executive and legislative departments of the Commonwealth will derive from the report of that Board, the value of which is very much enhanced by the great ability and experience of its members. In view of this fact, this Board deemed it probable that the recommendations to be made by the State Board of Charity might be better carried out if the work of constructing a new dining-hall and recreation hall or chapel were delayed until after that report should be submitted; accordingly, no work towards their erection has been undertaken.

It is the opinion of this Board that the capacity of the institution may be safely enlarged to 250 patients as an average. To secure that average there should be room for a possible 260 patients, because there is necessarily a variation in numbers; the coming and going of patients cannot be made absolutely uniform. The recommendation is respectfully submitted that this, the first government sanatorium for consumptives in the world, should now be fully equipped for work; and, if a capacity of 250 patients is desirable, certain preparations for it are requisite.

We state fully and in detail the requirements for a fully completed and equipped sanatorium for 250 patients. Were the limit to remain at 200, all the needs remain except additional wards for patients; the other requirements would remain, except that the dining-room and recreation hall could be somewhat smaller and some incidentals might be omitted. The needs are as follows:—

1. New dining-room and kitchen and recreation hall or chapel.
2. An administration building.
3. A nurses' home, which can well be the east ward slightly enlarged and a second story added.
4. An isolation cottage, to be prepared for any possible contagious disease.

5. The extension of two short wards to accommodate the additional patients.

6. Addition to heating and lighting plant to meet the increased demands of a home for 250 patients.

7. Furniture and equipment for new wards and administration building.

8. Dry sterilizer for treating mattresses and clothing of patients.

9. Window screens for the whole sanatorium.

10. Enlargement of present bath rooms; equipment with shower baths and enlarged lockers for patients' clothing.

11. A workshop for carpenter work and machinists' repairs, to be situated in the rear of and annexed to the engine room, with its equipment.

12. Painting of interior walls and exterior woodwork, both in oils, and incidental repairs.

13. Shed to store vehicles and farm implements. Another team of heavy work horses, with wagon and harnesses. The purchase of six cows, which can be fed on the premises from hay not suitable for horses.

14. The fresh eggs essential can be produced on the premises, and hens and ducks fed from table refuse; a suitable small building is needed.

15. A coal shed at Muschopauge station.

16. An ice house on the lake.

17. Treatment of wood land and lawns by a landscape architect, and the expense of same.

Plans and estimates have not been made for the important buildings. We deemed it more suitable to await the report and advice of the State Board of Charity. We shall gladly be advised by their recommendations. The resolve authorizes them to submit plans and estimates.

The best judgment of the trustees is that to carry out the complete equipment above outlined will require an expenditure of not less than \$110,000 in addition to the \$18,000 already appropriated, subject to the report of the State Board of Charity and any modification made necessary thereby. This Board recommends an appropriation of that amount. They will be prepared to submit plans and estimates, if requested so to do.

An impression has obtained in the minds of certain physi-

cians that they could send patients directly to the sanatorium, and rely on their being given a free bed at the charge of the State. This is a mistake, and has caused confusion and unpleasant misunderstandings. The practice at this sanatorium has been to expect that all patients will pay four weeks' board in advance on entering the institution. The patients must necessarily be received on trial. If they prove suitable and hopeful cases, the question of receiving free treatment at the cost of the State will be considered at the next monthly meeting of the trustees, who must have evidence as to the financial situation of the patient and his family.

We are advised by the medical staff that a reasonable amount of regular out-door work for two or three hours a day in gardening, or the care of the grounds, would be of the greatest advantage to the men who are patients. The fact that patients are constantly changing, that great care must be exercised, and that some of the harder work would be unsuitable, makes it improbable that any financial gain or any economy in expenses will result.

We have before stated that the expense of the food furnished and the further fact that medical skill and expert care is given to every patient makes it certain that such an institution must always cost more per capita than the State hospitals.

The appropriation of \$60,000 for the expenses of the current year will all be needed. We recommend the same appropriation for the ensuing year.

Olmsted Brothers, landscape architects, have visited the sanatorium and looked over the grounds. We quote from their recent letter to Dr. Percy : —

We were much pleased by the very unusually satisfactory site upon which the sanatorium has been erected. We believe it would be very difficult to find a site anywhere else in the State so elevated above the sea and at the same time so well sheltered from harsh north-west-erly storms. It is open to the east, south-east, south and south-west, and is therefore benefited by all the most desirable summer breezes, especially by the prevailing summer breeze, which is from the south-west. The views are extensive and exhilarating. Lake Muschopauge, although not visible from the building itself, is in sight from the grounds immediately adjoining the building on the east, and forms a remarkably beautiful and interesting feature in the

landscape. There is much open hilly land south-east and south-west from the sanatorium, affording opportunities for a variety of walks, with broad views and full exposure to the sun. At the same time there are well-grown woods, picturesquely diversified by ledges and precipitous slopes, north and north-west of the building, affording shady walks and resting places when the sun is too hot or the wind too strong in the open. The summit of the hill, a short distance north of the building, and the shores of the lake, afford particularly attractive objective points for walks.

They suggest that additional roads for drives or walks are indicated; that stone walls and refuse stone may well be disposed of by crushing and used to improve present roads and construct others; that the roads be shaded by careful tree planting, and some side slopes be smoothed over and planted with vines and wild shrubbery; that study will show a better location for the necessary barns and sheds; that flower and vegetable gardens will afford recreation, as well as benefit patients by the work they may there do; that a modest, economical green-house would afford flowers for interior decoration, and provide flowers and vegetables for early planting out; that proper locations should be selected for a base ball field, cricket and tennis grounds, etc., calculated to benefit such patients as can safely use them and promote the enjoyment of all; that the woods greatly need careful and intelligent thinning, the location of narrow roads or broad walks, serving for recreation as well as protection against forest fires; and that, after a suitable scheme is prepared, this work may be done gradually and may extend over a number of years.

A. W. ESLEECK.

W. E. PARKHURST.

FRED. B. PERCY.

ALBERT C. GETCHELL.

JOHN C. HAMMOND.

REPORT OF SUPERINTENDENT AND TREASURER.

To the Trustees of the Massachusetts State Sanatorium.

Herewith is respectfully submitted the report of the superintendent and treasurer of this institution for the year ending Sept. 30, 1900.

A complete record of the admissions and discharges of patients for the year is as follows :—

Admissions and Discharges.

PATIENTS.	Male.	Female.	Total.
Number of patients in the sanatorium Sept. 30, 1899,	79	86	165
Number admitted within the year,	159	158	317
Number discharged within the year,	156	150	306
Number of deaths,	2	3	5
Patients remaining in the sanatorium Sept. 30, 1900,	82	94	176
Daily average number of patients,	82	88	170

There have appeared for entrance examination 1,233 applicants, of whom 69 per cent. have been rejected because there were no prospects of immediate vacancies or because of too advanced condition of the disease. A very small percentage of the favorable cases have refused to come when notified. Eight cases have been received by request of the overseers of the poor of two cities.

The residence, civil condition and occupations of patients admitted are shown in the following tables :—

Residence.

COUNTIES.	Patients.	COUNTIES.	Patients.
Suffolk,	125	Hampden,	11
Worcester,	61	Plymouth,	8
Middlesex,	59	Berkshire,	6
Norfolk,	18	Barnstable,	2
Essex,	13	Franklin,	2
Bristol,	11	Hampshire,	1

Civil Condition.

	Male.	Female.	Total.
Unmarried,	98	98	196
Married,	57	55	112
Widowed,	2	7	9

Occupations.

	Male.	Female.		Male.	Female.
Baker,	5	—	Clergyman,	3	—
Book-keeper,	8	7	Clerk,	26	7
Bolt cutter,	1	—	Coachman,	2	—
Box maker,	1	1	Conductor, electric		
Brakeman,	1	—	railway,	2	—
Brass polisher,	1	—	Dentist,	1	—
Brewer,	1	—	Domestic,	—	29
Bridge inspector,	1	—	Draftsman,	1	—
Builder,	1	—	Dressmaker,	—	13
Carpenter,	1	—	Elevator man,	4	—
Cigar maker,	2	—	Engineer,	1	—
Civil engineer,	1	—	Farmer,	3	—

Occupations — Concluded.

	Male.	Female.		Male.	Female.
Factory and mill op-			Nurse maid, . . .	—	2
erative, . . .	21	16	Plumber, . . .	1	—
Fire department em-			Policeman, . . .	1	—
ployee, . . .	2	—	Porter, . . .	2	—
Glass cutter, . . .	1	—	Printer, . . .	5	—
Glazier, . . .	1	—	Sales people, . . .	6	4
Grocer, . . .	3	—	Shipwright, . . .	1	—
Horseshoer, . . .	1	—	Stable keeper, . . .	1	—
Hostler, . . .	2	—	Stenographer, . . .	1	1
Housewife, . . .	—	52	Student, . . .	9	12
Jeweller, . . .	2	—	Real estate agent, . . .	1	—
Laborer, . . .	3	—	Tailor, . . .	4	—
Lawyer, . . .	1	—	Teacher, . . .	1	3
Letter carrier, . . .	2	—	Teamster, . . .	2	—
Life saver, . . .	1	—	Telephone operator, . . .	2	—
Lineman, . . .	1	—	Tile layer, . . .	1	—
Machinist, . . .	4	—	Travelling sales-		
Mason, . . .	1	—	man, . . .	1	—
Mechanical engineer, . . .	1	—	Waiter, . . .	2	3
Milliner, . . .	—	3	Watch maker, . . .	2	—
Moulder, . . .	1	—	Wood carver, . . .	1	—
Nurse, trained, . . .	—	5			

The 317 patients admitted have an average age of twenty-eight years. They have as dependents upon them for support 150 individuals.

With a few exceptions all the working people in the wards (waitresses and ward boys) have been patients, under treatment or graduated. In all cases the physical condition of these workers has been very satisfactory. Others have been employed in general outside work with good results to them physically.

The gardening begun this year in an experimental way has not been of sufficient proportion to warrant a detailed report, but I am fully convinced of the success of the experiment, and hope to be able to enlarge upon it another year.

The weekly cost of maintenance has been \$9.74½ per capita. It has been impossible to make this as low as last year's record, because of the advance in prices of all staple articles.

The charge made for telephone service (\$463.73) is exorbitant, but I have been unable to obtain any concession.

The Boston office of the sanatorium, at 181 Tremont Street, has been open throughout the year on Wednesdays and Saturdays. Examining days at the sanatorium have been Mondays and Fridays. This arrangement will continue for the ensuing year.

A portion of the special appropriation for "furnishings, grading, painting, extension of water pipes and sundry other necessary improvements" has been used for the purposes specified, viz.: the water line has been extended to the farm buildings; some changes and general repairs have been made in the farm house, with addition of a bath room; farm horses, wagons, implements, etc., have been added to the equipment for outside work; portions of the woodwork on the exterior of the buildings have been painted; better equipment in the kitchen and other parts of the institution has been supplied.

The library, through the continued successful efforts of Mrs. Rufus P. Williams, has become a collection of about 2,000 bound volumes. To complete it we are very much in need of book cases and a system of cataloguing.

The following papers and magazines have been donated by the publishers and by friends, and are hereby gratefully acknowledged: Worcester "Daily Spy," Ware River "News," Fitchburg "Sentinel," Springfield "Union," Somerville "Journal," Milford "Gazette," Newton "Graphic," Leominster "Enterprise," "Times and Newsletter" (Westfield), "My Neighbor," "The Outlook," "Harper's Monthly," Clinton "Courant," Athol "Transcript," "Church Militant," "Masters in Art," "The Parisian."

Our thanks are due the Harvard Medical School and the Boston University School of Medicine for the excellent microscopical work they have done for us. We thank also the friends who have sent books and magazines for the library, and those who have contributed to our entertainments and to the purchase of the much-needed chapel organ.

In conclusion, I wish to commend my associates for their

faithful devotion to the interests of the institution, and I desire to express my thanks to your Board for your wise counsel.

The financial statement follows.

Cash on hand Oct. 1, 1899,	\$2,334 28	
Balance appropriation 1899, for maintenance,	2,717 40	
Received from Commonwealth, special appropriation for deficit of 1899,	12,000 00	
Received from Commonwealth, portion of appropriation for maintenance of 1900,	44,904 98	
Received from patients,	26,293 89	
Received from cities and towns for support of patients, .	1,192 87	
Received from the State and from charitable associations for support of patients,	1,125 73	
Received from sale of clinical thermometers, furs, etc., .	1,792 49	
	<hr/>	\$92,361 64

The expenses for the year ending Sept. 30, 1900, have been as follows : —

Salaries and wages,	\$28,809 42	
Provisions and supplies : —		
Fresh meat,	\$16,201 90	
Ham and bacon,	635 84	
Flour,	410 90	
Butter,	3,662 44	
Eggs,	3,745 71	
Milk,	5,635 64	
Groceries,	4,446 13	
Fruit and vegetables,	2,006 53	
Fresh fish,	522 91	
	<hr/>	37,268 00
Water,	\$500 00	
Fuel and light,	7,216 48	
Medical supplies,	1,286 26	
Supplies for cuspidors,	683 20	
Household supplies and expenses,	2,075 30	
Engineers' supplies,	210 89	
Office supplies,	773 07	
Boston offices, rent and attendance,	571 04	
Farm supplies,	315 29	
Grain and feed for stock,	536 20	
Farm repairs,	153 55	
Teaming and livery,	1,089 34	
Travelling expenses (trustees, visiting physicians and other officers),	1,562 57	
Freight,	451 14	
	<hr/>	
<i>Amounts carried forward,</i>	<i>\$17,424 33</i>	<i>\$66,077 42</i>

<i>Amounts brought forward,</i>	. . .	\$17,424 33	\$66,077 42
Express,	. . . . .	670 85	
Telephone, \$463.73; telegraph, \$25.06,	. . . . .	488 79	
General repairs,	. . . . .	922 11	
		<u>\$19,506 08</u>	
Of which there remain unpaid bills amounting to		4,103 62	15,402 46
		<u></u>	
Total,	. . . . .	. . . . .	<u>\$81,479 88</u>

Extraordinary expense:—

Fur coats and robes for patients,	. \$357 60		
Household furnishing,	. . . 981 75		
Other miscellaneous,	. . . 291 18		
Total,	. . . . .	<u>\$1,630 53</u>	
Rebate to patients,	. . . . .	188 83	
Liabilities as of third annual report, and paid this year:—			
Water,	. . . . . \$500 00		
Miscellaneous bills,	. . . . . 8,180 51		
		<u>8,680 51</u>	
Total extraordinary expense,	. . . . .	<u></u>	10,499 87
Cash on hand Sept. 30, 1900,	. . . . .	. . . . .	381 89
			<u>\$92,361 64</u>

RESOURCES.

Cash on hand Sept. 30, 1900,	. . . . .	\$381 89
Due from patients,	. . . . .	1,411 48
Due from cities and towns for support of patients,	. . . . .	205 10
Due from State and charitable associations for support of patients,	. . . . .	424 40
Balance of appropriation of 1900, for maintenance,	. . . . .	15,095 02
Supplies on hand Sept. 30, 1900,	. . . . .	1,974 60
Estimated income from patients to Dec. 31, 1900,	7,500 00

LIABILITIES.

Due for supplies, salaries and wages,	\$4,103 62
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SUMMARY OF CURRENT EXPENSES FOR THE YEAR ENDING SEPT. 30, 1900.

Total expenditures for current expenses,	\$81,479 88	
Liabilities for current expenses,	. . . . .	4,103 62	
		<u></u>	\$85,583 50
Supplies on hand Oct. 1, 1899,	. . . . .	\$2,766 11	
Supplies on hand Sept. 30, 1900,	. . . . .	1,974 60	
Making an addition of	. . . . .	<u></u>	791 51
We have as total current expenses,	. . . . .	. . . . .	<u>\$86,375 01</u>

Dividing this amount by the total number of days for patients, 62,038, we have \$1.392+ as the average cost per day, or \$9.74½ per week.

SPECIAL APPROPRIATION, — FURTHER EQUIPMENT, 1899.

Balance of appropriation, as of third annual report, . . .	\$343 79
Dec. 7, 1899, schedule of bills,	\$173 32
June, 1900, schedule of bills,	170 47
	<hr/>
	343 79

SPECIAL APPROPRIATION, — GRADING, 1898.

Unexpended balance, as of third annual report,	\$30 65
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SPECIAL APPROPRIATION, — ELECTRIC LIGHT PLANT, 1898.

Balance of appropriation, as of third annual report, . . .	\$28 75
July, 1900, schedule of bills,	28 75

SPECIAL APPROPRIATION, — FOR FURNISHING, GRADING, PAINTING,
EXTENSION OF WATER PIPES, AND SUNDRY OTHER NECESSARY
IMPROVEMENTS.

Appropriation, 1900,	\$5,000 00
July, 1900, schedule of bills,	\$2,768 29
August, 1900, schedule of bills,	1,055 86
	<hr/>
	3,824 15
	<hr/>
Unexpended balance,	\$1,175 85

WALTER J. MARCLEY,

Superintendent and Treasurer.

RUTLAND, MASS., Oct. 29, 1900.

I have examined the accounts of the treasurer of the Massachusetts State Sanatorium,
and have found them correct.

(Signed)

C. E. WATSON,

Expert Accountant.

REPORT OF THE EXAMINING AND VISIT-

ING PHYSICIANS.

To the Trustees of the Massachusetts State Sanatorium.

In offering you the results of the second year's work in my department of the sanatorium it gives me the greatest satisfaction to report even better results than before. This fact is doubtless due largely to our ability now to select from the larger number of applicants those in whom the symptoms of disease are still comparatively slight and for whom there is great hope of permanent recovery ; a method which we believe from experience brings the greatest good to the greatest number. Larger experience and better facilities are also factors in obtaining better results.

TABULATION OF CASES.

In the following tables I have adhered to the method which I have hitherto employed, of classifying together as “ arrested ” cases those in whom practically every outward symptom has disappeared, and in whom there is an appearance of health, many of these showing, as far as possible for tissue once diseased, an apparently normal condition of the lungs.

Total number of cases admitted during the year ending Oct. 1, 1900	
(including 2 readmitted),	159
Number who left in less than one month, and whose cases are not considered,	18
Number of cases treated,	141

	Incipient.	Well-marked Incipient.	Moderately Advanced.	Advanced.	Very Advanced.	Total.
Arrested,	26	13	10 (3)	3	4	56
Very much improved,	3*	5 (2)	12 (3)	5 (1)	5 (2)	30
Much improved,	1*	10 (2)	9 (5)	1 (1)	2 (2)	23
Improved,	2*	5	8 (1)	3 (2)	3 (1)	21
Not improved,	—	1	6†(3)	—	4 (4)	11
Total,	32	34	45	12	18	141

* Left against advice.

† Two died in sanatorium.

NOTE.—The figures in parenthesis denote the number of cases with active disease, that is, those with high temperature, pulse and other signs showing rapid progress.

Of these, 32 had an active or febrile type of disease.

As seen by the above table, of the 32 “incipient” cases, all who did not leave prematurely and against advice were “arrested.”

The 2 deaths occurring in my service were due in one case to a sudden very violent hemorrhage during which the patient died; and the other to sudden syncope, caused by a pneumothorax.

The term “incipient” is used in those cases in which the physical signs are confined to very small areas, namely, in one or both apices of the lungs, and in which the constitutional symptoms are but slightly marked.

The term “well-marked incipient” is used in cases where a larger area is involved, and where the constitutional symptoms are more apparent.

The term “moderately advanced” means a condition in which well-marked changes of respiration, percussion note, etc., are noted, with more or less constitutional disturbance.

The term “advanced” means well-marked areas of consolidation, or with more or less cavity formation and constitutional disturbance.

The term “very advanced” means marked increase of all the above-mentioned signs.

The term “active” is used in cases of distinctly febrile character, with rapid pulse, etc., showing a probably rapid process.

Number in whom tubercle bacilli were found in the sputa, or who gave a reaction to tuberculin,	137
Tuberculin was <i>not</i> used and bacilli were <i>not</i> found, but undoubted signs of phthisis were present, in	4
	<hr/>
	141
Number who received tuberculin for confirmatory diagnosis, when sputa could not be obtained,	14
Of these, number who had hæmoptysis as a symptom,	10

Percentages.

“Arrested” cases (56),	39.7+
All grades of “improved” cases (74),	52.0+
“Not improved” (11), including 2 who died,	7.0+
Of the total number of purely “incipient” cases, 81.4 were arrested.	

Comparison of Percentages in the First and Second Year.

	1898-99.	1899-1900.
Number of "arrested" cases,	30.97	39.7
Number of all classes of "improved,"	46.10	52.4
Number of "not improved,"	21.23	7.9

Averages.

The average duration of the disease prior to entrance in all cases treated was	10 months.
The average age of the 141 patients was	27 years.

	Pounds.
Average gain in weight of "arrested" cases,	19.70
Average gain in weight of "very much improved" cases,	19.40
Average gain in weight of "much improved" cases,	10.80
Average gain in weight of "improved" cases,	6.57
Average loss in weight of "not improved" cases, . . . . .	.50
Average gain in weight of entire number treated (141),	14.73

All of the "arrested" cases and a majority of the "very much improved" cases were at or above their normal weight when discharged.

The average length of stay of patients during the year prior to October, 1900, was 8 1-2 months for "arrested cases" and 8 months for all others. The average length of stay is exactly twice that of the first year.

	Months.	Days.
Of the "arrested" cases the longest stay was	19	—
Of the "arrested" cases the average stay was :	8	21
Of the "arrested" cases the shortest stay was	1	17
Of the "very much improved" cases the longest stay was	18	15
Of the "much improved" cases the longest stay was	15	15

	Pounds.
Greatest gain in weight of "arrested" cases,	* 65.0
Greatest gain in weight of "very much improved" cases,	38.0
Greatest gain in weight of "much improved" cases,	25.0
Greatest gain in weight of "improved" cases,	22.0
Greatest gain in weight of "not improved" cases,	11.5

* This case was a woman with advanced phthisis, who returned to her home and later went to the Massachusetts General Hospital, where she had typical typhoid (Widal reaction positive), without any effect on the pulmonary signs, cough or sputa (bacilli absent). She is now from all accounts doing well in every respect at her home in Arlington Heights.

SUBSEQUENT HISTORY OF CASES DISCHARGED DURING THE
YEAR PRIOR TO OCT. 1, 1900.

In our previous report the great importance of learning the subsequent histories of former patients was touched upon. The following statistics are therefore of special interest. In response to our printed sets of questions, sent to all who were discharged previous to October, 1899, the number and character of the replies has been most gratifying.

Of the 35 cases "arrested" at time of discharge during the year 1898-99, all are alive, and, with the exception of 3 cases, have not relapsed. Two of these relapsed cases have been readmitted. The recurrence of disease in these cases appears to be wholly due to lack of means and consequent inability to live under proper conditions. A large number, however, of the "arrested" cases, although advised to the contrary, returned to the former environments in which the disease originated, and have, contrary to our expectations, almost uniformly remained (to this date) free from abnormal symptoms or disease. A few with care have become even stronger and heavier than when they left the institution.

Of the 77 cases discharged during the first year as "improved," many left against advice and many returned to an unhygienic life and locality, but a majority are still alive, and are holding the disease in check to a greater or less extent. Seven at least of these "improved" cases have since discharge become completely "arrested," and a number are in better condition than when discharged.

Thirty-two of all the cases treated prior to October, 1899, have died.

Of the 115 cases discharged up to Oct. 1, 1899, all of whom have been away from our care from one to two years, a majority are and have been employed in occupations evidently as arduous as those before illness.

The foregoing tables have been prepared after most careful study by my assistant, Dr. Dunham, in consultation with me, and strictest care has been taken moreover, to make no claims which after close observation seem to be not entirely justified.

The results show most conclusively that the experiment of providing State care for consumptives by the establishment of

sanatoria is an undoubted success; but, that it may be much more far-reaching in its results, additional equipment is greatly needed. A larger corps of assistants is necessary, and a properly equipped laboratory, examining room and entertainment hall are essentials.

I should like to emphasize also what was spoken of in the report of last year, viz., the establishment of a small "probation hospital," on or near the grounds of the sanatorium, for the reception of certain cases when the larger institution is full. With such a building certain cases could be received who could test the effect of a stay in Rutland previous to entrance into the sanatorium, and as vacancies occur they could be immediately filled without the present loss of time and income to the institution. At the same time, a more judicious selection of patients could be made, according to their improvement or otherwise during their period of probation.

As has been often said, the chief value of such an institution as the sanatorium at Rutland is its educational influence upon the community at large. Abundant and gratifying evidences of this are constantly being shown to us by the numerous letters received from former patients, telling us of their improved methods of life and of their endeavor to teach their relatives and friends the importance of fresh air, good food and regular living as the best method for prevention of disease. The sanatorium at Rutland is therefore in one sense a great educational establishment, and as such should receive the hearty and generous support of every one who is desirous of combating the ravages of tuberculosis.

It is my belief, however, that, although the results show the work has long since passed its experimental stage, there is yet much to be done to make the sanatorium a perfect institution, and no money should be wanting to put it upon such a basis. While hoping to see its example followed elsewhere in the future, I should regret any action for great enlargement of the present accommodations for patients, still more for the establishment of other similar institutions by the State, until such time as the sanatorium at Rutland can be made a perfect and lasting example of its kind. Moderation in these matters, now that the idea has become popular, is greatly to be desired.

In saying this I refer only to sanatoria, properly so called. Of the present need for hospitals for the hopelessly sick there

can be no shadow of doubt in the mind of any one who is constantly brought in contact with the great numbers of poor people who are doomed to a lingering death, and whose sufferings are enhanced by lack of proper care at home, where they are a constant burden to their families. For such people there should be proper institutions near every large city and town, supported not by the State, but by the municipalities to which they belong. In our endeavor to make the sanatorium at Rutland a place where people can recover, it is of course impossible to receive these hopeless cases, even if we had room; and an earnest plea is therefore made to every physician to use great care in the selection of patients to be sent for examination. It is a constant source of surprise, I regret to say, that men and women appear for examination, sent often from a distance by their physician as hopeful cases, when the symptoms show them to be in an advanced state of the disease which has not been fully diagnosed. Of the needless fatigue, expense and disappointment brought upon these poor creatures by such action it is unnecessary to dwell.

In closing my report, I wish to express my most grateful appreciation of the invaluable services of my assistant, Dr. Henry B. Dunham, both in his care of the patients and in the preparation of this report. We owe much also to the kind services and helpful suggestions of Dr. James J. Minot of Boston, who during my temporary absence last summer acted as attending physician in my place. For the constant courtesy of the superintendent, Dr. Marcley, the matron, Miss Thrasher, the nurses and others connected with the institution, I wish also to express my sincere thanks.

I remain very respectfully yours,

VINCENT Y. BOWDITCH.

SEPT. 30, 1900.

To the Trustees of the Massachusetts State Sanatorium.

GENTLEMEN : — My first annual report was made to end on Oct. 10, 1899, because that date was exactly one year from the day when the sanatorium (then called hospital) received its

first patients. To conform, however, to the other reports, my second annual is made to end on Sept. 30, 1900, which makes the period to be covered, and now under consideration, less than a full year by about ten days.

During this time there have been admitted to the sanatorium under my care 143 patients; these, with the 77 remaining at the time of my last report, Oct. 10, 1899, make a total of 220 patients treated during the year. Out of this number, 144 (69 males and 75 females) have been discharged. Of these discharged patients, 12 had remained in the sanatorium, for one reason or another, less than one month, which was of course too short a time to warrant deductions as to the efficacy of treatment, although some of them manifestly improved. One of these 12 entered the sanatorium in practically a moribund condition, and died in a very few days. She had been accepted on examination three or four weeks previously, but did not come to Rutland when requested to do so, because, as she afterwards explained, she was suddenly taken sick at home. At last she forced herself to take the journey, but on reaching the sanatorium was too much exhausted by the acute miliary tuberculosis (which had meantime complicated the disease) to allow of her being sent home. A regulation has since been adopted requiring a second examination of "passed" applicants who do not enter for two or three weeks or more.

Leaving out of consideration these 12, we have 132 discharged patients, whose cases will be considered statistically in this report. Of these cases, 82 on admission were incipient, 40 were moderately advanced and 10 were far advanced, according to the definition of these stages given in my report of one year ago. By "incipient" cases are meant those which present evidence of a small tubercular deposit in one or both lungs, but without very decided constitutional disturbances. By "moderately advanced" cases are meant those where the tubercular deposits are larger and are beginning to soften, and the constitutional disturbances are prominent; or where, without an extensive infiltration, the pronounced rational symptoms indicate a greater susceptibility of the system to the poison. Far advanced cases require no definition.

The average length of stay of these patients was six months and six days. Only 14 remained longer than one year.

The results of treatment are clearly shown by the following tabular view, not only for the 82 “incipient” cases, but also for the 40 “moderately advanced” and the 10 “far advanced” cases, under the headings of “apparently cured or arrested,” “improved,” “not improved” and “died.” The reasons for the selection of these headings were given in my last report. Finally, the results for all stages of the disease combined appear under the same headings. In the latter line, of the 49 improved, 28 were certainly very much improved.

132 Patients who remained from 1 Month to 19²/₃ Months.

CONDITION ON ADMISSION.	Apparently Cured or Arrested.	Improved.	Not Improved.	Died.
Incipient cases (82),	53	28	1	—
Moderately advanced cases (40),	6	18	15	1
Far advanced cases (10),	—	3	6	1
Total (132),	59	49	22	2

From these tables the following very favorable percentages may be obtained : —

Of the “incipient” cases there were —	Per Cent.
Apparently cured or arrested,	64½
Improved (including also greatly improved),	34+
Not improved (worse),	1+
Of the “moderately advanced” cases there were —	
Apparently cured or arrested,	15
Improved (including also greatly improved),	45
Not improved (including worse),	37½
Died,	2½
Of the “far advanced” cases there were —	
Improved,	30
Not improved (worse),	60
Died,	10
Of all the cases in my service there were —	
Apparently cured or arrested,	45
Improved (including much improved),	37
Not improved (including worse),	16½
Died,	1½

As in my last report, the expression “apparently cured” indicates cases in which the phthisical cough, fever, etc., are practically gone, no tubercle bacilli being found in the sputum (or there being no expectoration), and the physical signs either having entirely disappeared, or, if any remain, indicating a healed lesion.

Tubercle bacilli were found in the expectoration of 117 of my patients and were not found in 15 cases. The sputum from the whole of the sanatorium has been sent indiscriminately to the pathological laboratories of the Boston University and of the Harvard University medical schools, sometimes to one and sometimes to the other, just as it happened.

Of the 15 cases in which no tubercle bacilli were found, 7 had no sputum to examine. Of these 7, 3 had had hemorrhages, 1 had a tubercular knee (which has since been operated on at one of our hospitals in Boston), 2 had decided physical signs, and the last had constitutional symptoms which made it at least very suspicious. Of the 8 cases where sputum existed but contained no bacilli, 3 had had hemorrhages, 1 was so far advanced that the patient died in the Cullis Consumptives' Home within a few weeks after leaving the sanatorium, 1 was an old and well-marked case of fibroid phthisis, and the other 3 were incipient cases with physical signs and symptoms fairly well marked, if not absolutely conclusive.

The greatest weight gained by any patient discharged during the year was 49 pounds. Of the 132 patients, 127 gained weight during their stay, and the average gain was $13\frac{2}{3}$ pounds. Five lost weight, and the average loss was 4 pounds. This is certainly a very satisfactory showing.

The better results obtained this year, as compared with last, are undoubtedly owing, to a great extent, to the fact that, more applications for admission having been received, a more judicious selection of patients, as to physical condition, could be made. Still more satisfactory work could be done if the applications were so numerous that only incipient cases could be admitted. One practical difficulty now in the way of our admitting only such cases is to be found in the fact that very frequently persons in the early stages of consumption are either unaware of their condition, or, on being informed, are very reluctant to believe it, and persistently refuse to do the right

thing, because they deem it unnecessary, or else because they feel that they cannot afford to give up work in order to attend to themselves. When, however, they have pursued this policy long enough to become incurable, they are willing enough and anxious enough to do anything, whether it be in their power or not. The large number of such applicants, many of whom have exhausted all or nearly all of their resources, is exceedingly distressing and pitiable indeed, and constantly calls attention to the great need which exists for some suitable provision for this unfortunate class of advanced consumptives, to be made either by our Commonwealth, or, perhaps better, by districts, counties, cities or towns.

An erroneous idea prevails to some extent among certain physicians in Massachusetts that our rejection of an applicant necessarily means incurability. This is far from being the case. We endeavor to select from among the applicants those who seem most likely to improve, and that to the greatest extent and in the shortest time, so that the beds can be occupied by as many patients as possible in succession, and can thus do the most good to the greatest number. The standard of admission may vary somewhat from time to time, according to the number and physical condition of the applicants.

An effort has lately been made to ascertain, as far as possible, the present condition of the 29 patients who were reported as apparently cured or arrested cases in my first year of service, and who are now more or less widely scattered. A carefully drawn up letter, with numerous questions designed to elicit information as to the presence or absence of important symptoms, the ability to work, etc., was printed and sent to these former patients, and all but 1 replied. To my great gratification, the answers indicated that 24 or 25 out of the 29 still remained up to that time in pretty good condition, in spite of the fact that in some cases it was impossible to avoid unhygienic surroundings. Of about one-third of these patients I was able to make a physical examination, which corroborated these conclusions. Very likely some allowance is to be made for optimism in the reports of those not thus examined, but not, I think, sufficient very materially to influence the results. As if to compensate for these relapses, 4 of those who had been reported as improved only when discharged in the

first year, were found to have advanced in health, as a result of a careful outside continuance of the treatment initiated at our sanatorium, sufficiently to warrant the change of designation to apparently cured or arrested.

It may not be out of place to add that your physicians are eagerly looking forward to the erection of the hall for recreation, religious services, and other public gatherings, which is sorely needed, as well as of the administration building with proper examination and waiting rooms, laboratory, throat room, etc., also the new dining hall, all of which will be valuable additions to the equipment of the institution.

I desire to record here my continued satisfaction with the work of my assistant, Dr. D. P. Butler, Jr., who has been very faithful in the performance of all his duties. The nurses, too, as last year, have been very efficient.

Respectfully submitted,

HERBERT C. CLAPP, M.D.

LIST OF WAGES.

Examining and visiting physicians (per annum), each,	. . . . .	\$2,500 00
Superintendent and treasurer (per annum), . . . . .	. . . . .	2,000 00
Matron and superintendent of nurses (per annum), . . . . .	. . . . .	1,000 00
Assistant physicians (per annum), each, . . . . .	. . . . .	600 00
Chief engineer, with meals (per annum), . . . . .	. . . . .	1,200 00
Supervisor, without living (per annum), . . . . .	. . . . .	800 00
Book-keeper (per annum), . . . . .	. . . . .	500 00
Nurses, day (per month), . . . . .	. . . . .	30 00
Nurses, night (per month), . . . . .	. . . . .	35 00
Stenographer (per month), . . . . .	. . . . .	30 00
Assistant engineer, without living (per month), . . . . .	. . . . .	60 00
Assistant engineer, without living (per month), for six months,		50 00
Cook (per month), . . . . .	. . . . .	80 00
Assistant cook (per month), . . . . .	. . . . .	38 50
Baker (per month), . . . . .	. . . . .	60 00
Baker's assistant (per month), . . . . .	. . . . .	25 00
Fireman (per month), . . . . .	. . . . .	38 00
Fireman (per month), for six months, . . . . .	. . . . .	40 00
Carpenter, without living (per day), . . . . .	. . . . .	2 00
Head laundress (per month), . . . . .	. . . . .	25 00
Laundry help, female (per month), . . . . .	. \$15 00 to	20 00
Laundry help, male (per month), . . . . .	. . . . .	20 00
Ward help, female (per month), . . . . .	. \$13 00 to	15 00
Ward help, male (per month), . . . . .	. . . . .	15 00
General work (per month), . . . . .	. . . . .	15 00
Porter and messenger (per month), . . . . .	. . . . .	25 00
Kitchen men (per month), . . . . .	. \$15 00 to	25 00
Coachman (per month), . . . . .	. . . . .	20 00
Teamster (per month), . . . . .	. . . . .	20 00
Farm help (per month), . . . . .	. \$15 00 to	22 50